

## Broadband USA Applications Database

**Applicant Name:** HAWKEYE TELEPHONE COMPANY

**Project Title:** Hawkeye Telephone Company Rural Broadband Expansion

**Project Type:** Last Mile Non-Remote

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### Executive Summary

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Hawkeye Communications operates a combined network system that uses a traditional twisted copper pair telephone network technology and a fiber rich distribution network that will easily migrate to an all fiber network providing high-speed broadband connections at rates of 70Mbps or higher. While Hawkeye Communications builds the network for today, the strategy is to make it flexible enough to accommodate the technical developments of a rapidly expanding industry and new customer requirements that will be required in the future. Bandwidth and capacity are the two drivers for telecommunications services. With these two elements in place, a network will be able to accommodate new customer requirements as they evolve. The network design recommended for the Hawkeye exchange area provides significant capacity with substantial bandwidth for each end customer. The design is flexible enough to allow the fiber to go all the way to the home or office if necessary, or when the customer demand supports the expansion effort. INTEGRATED TELEPHONE/BROADBAND NETWORK Multiple Voice services (POTS & VoIP) High-Speed Data Internet Connection and other on-line services via the telephone network LAN, WAN and MAN Connectivity Distance learning Telecommuting Home Security Utility Measurement and Monitoring Home Banking RF Video Switched Digital Video High Definition Video Video on Demand The Hawkeye exchange area network proposed by this plan will position Hawkeye telephone to take advantage of current state of the art telecommunications technology. The last five years have seen major changes in the structure of the telecommunications industry, and the pace of technological change continues. Subscriber Data: The proposed Hawkeye Telephone rural services area is comprised of 214 subscribers, of which 158 are currently underserved. The proposed exchange service area covers approximately 53 square miles. Type of Broadband system to be deployed: The electronics are built around a GPON (Gigabit Passive Optical Network) system providing 2.4Gbps downstream and 1.2Gbps upstream. The GPON system operates from a single fiber source through the fiber optic network connecting to a series of splitters ranging between 8, 16, or 32 ports. The size of the splitter is dependent upon the distance, customer count and the density of customers being served in each area. Each splitter output port is connected to a fiber drop cable which terminates to an ONT (Optical Network Terminal) at the customer home or business location. The ONT converts the light signal to broadband services which will provide the customer with POTS (Plain Old Telephone Service) and Ethernet for Data and IPTV services. In addition, an RF analog video port can be provided for older televisions products. At present, maximum bit rates can range from 70Mbps per house with burst capability above 100Mbps. The open network design will allow other service providers with access to the last mile, providing business and residential customers a broader service base. The cost of the network will be \$2.1 million.